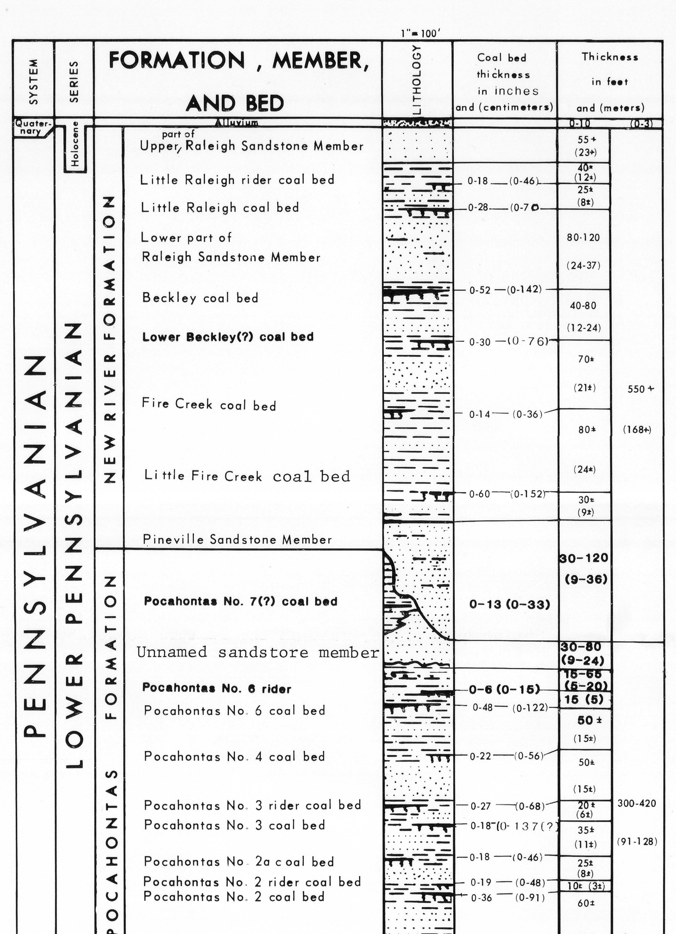


Note: Insufficient data available to estimate resources of other coal beds shown in stratigraphic column

Figure 10.--Generalized stratigraphic column of coal-bearing formations

EXPLANATION

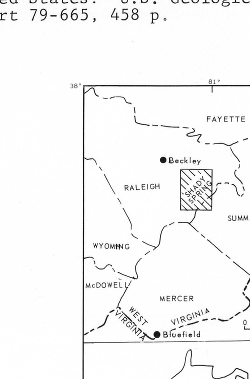
Coal bed thickness

- 35-70 cm
- 70-105 cm
- 105+ cm
- Mined and lost in mining
- Line of equal thickness--Dashed where projected
- Strip mine
- Line of outcropping coal bed--Dashed where projected; queried where extension uncertain

REFERENCES

Meissner, C.R., Jr., 1979, Geologic map of the Shady Spring quadrangle, Raleigh and Summers Counties, West Virginia: U.S. Geological Survey Open-File Report 79-1512, scale 1:24,000.

Zubovic, Peter, Oman, Charles, Coleman, S.L., Bragg, Linda, Kerr, P.T., Kozey, K.M., Simon, F.O., Rowe, J.J., Medlin, J.H., and Walker, F.E., 1979, Chemical analysis of 617 coal samples from the eastern United States: U.S. Geological Survey Open-File Report 79-665, 458 p.



INDEX MAP

Table 1.--Estimated original and remaining coal resources covered by less than 300 meters of overburden in the Shady Spring quadrangle [Values in thousands of metric tons, as of June, 1979]

FORMATION	COAL BED	ORIGINAL: MEASURED: In beds 35-70 centimeters thick	In beds 70-105 centimeters thick	In beds more than 105 centimeters thick	Total	INDICATED: In beds 35-70 centimeters thick	In beds 70-105 centimeters thick	In beds more than 105 centimeters thick	Total	RESOURCES: INFERRED: In beds 35-70 centimeters thick	In beds 70-105 centimeters thick	In beds more than 105 centimeters thick	Total	TOTAL: In beds 35-70 centimeters thick	In beds 70-105 centimeters thick	In beds more than 105 centimeters thick	Total	MINED AND LOST IN MINING: Total	REMAINING RESOURCES: Total
	RALEIGH COUNTY																		
NEW RIVER	Little Raleigh	460	-	-	460	320	-	-	320	-	-	-	-	780	-	-	780	130	650
NEW RIVER	Beckley	-	1670	2570	4240	100	390	-	490	10	-	-	10	110	2060	2570	4740	2700	2040
NEW RIVER	Lower Beckley(?)	1190	110	-	1300	2050	-	-	2050	-	-	-	-	3240	110	-	3350	30	3320
NEW RIVER	Fire Creek	310	-	-	310	430	-	-	430	130	-	-	130	870	-	-	870	-	870
POCAHONTAS	Pocahontas No. 6	2920	17930	5570	26420	5280	2930	220	8430	2380	50	-	2430	10580	20910	5790	37280	8730	28550
POCAHONTAS	Pocahontas No. 3 rider	2030	-	-	2030	1800	-	-	1800	140	-	-	140	3970	-	-	3970	30	3940
POCAHONTAS	Pocahontas No. 3	930	70	830	1830	3540	4240	1910	9690	2890	4180	720	7790	7360	8490	3460	19310	-	19310
POCAHONTAS	Pocahontas No. 2	520	600	-	1120	5640	1820	-	7460	8930	240	-	9170	15090	2660	-	17750	-	17750
POCAHONTAS	Pocahontas No. 1	750	-	-	750	4330	-	-	4330	3200	-	-	3200	8280	-	-	8280	-	8280
	Raleigh County TOTALS	9110	20380	8970	38460	23490	9380	2130	35000	17680	4470	720	22870	50280	34230	11820	96330	11620	84710
	SUMMERS COUNTY																		
POCAHONTAS	Pocahontas No. 6	350	110	50	510	550	380	-	930	1850	190	-	2040	2750	680	50	3480	80	3400
	Summers County TOTALS	350	110	50	510	550	380	-	930	1850	190	-	2040	2750	680	50	3480	80	3400
	Shady Spring quadrangle TOTALS	9460	20490	9020	38970	24040	9760	2130	35930	19530	4660	720	24910	53030	34910	11870	99810	11700	88110

Table 2.--Ulitimate and proximate analyses [Results in percent, except heating values. (a) as received; (b) moisture free; (c) ash and moisture free. Analyses by U.S. Bureau of Mines, Pittsburgh, Pa.]

Coal and Sample No.	Sample Type	Proximate Analysis: Moisture	Volatile matter	Fixed carbon	Ash	Ultimate Analysis: Hydrogen	Carbon	Nitrogen	Oxygen	Sulfur	Ash	Heating Value: Btu/lb	Sulfur Form: Sulfate	Pyritic	Organic
Beckley (upper bench) No. W190927	a	1.3	17.4	78.3	3.0	4.7	85.9	1.5	4.2	0.7	3.0	14910	0.13	0.21	0.39
	b		17.7	79.3	3.0	4.6	87.0	1.6	3.1	0.7	3.0	15100	0.13	0.21	0.39
	c		18.2	81.8		4.8	89.6	1.6	3.2	0.8		15570	0.14	0.22	0.41
Fusibility of ash (temperature °F): Initial deformation 2505; softening 2700; fluid 2800															
Beckley (lower bench) No.W190928	a	1.5	16.6	73.3	8.6	4.5	80.6	1.5	4.3	0.5	8.6	13980	0.11	0.42	0.02
	b		16.8	74.4	8.8	4.4	81.8	1.5	2.9	0.6	8.8	14190	0.11	0.42	0.02
	c		18.5	81.5		4.8	89.7	1.5	3.3	0.6		15560	0.12	0.46	0.02
Fusibility of ash (temperature °F): Initial deformation 2800+; softening n.d.; Fluid n.d.															

Table 3.--Major and minor oxide composition of the laboratory ash [Values in percent. Analyses by U.S. Geological Survey, Reston, Va.]

Coal and Sample No.	Ash	SiO_2	Al_2O_3	CaO	MgO	Na_2O	K_2O	Fe_2O_3	MnO	TiO_2	P_2O_5	SO_3
Beckley (upper bench) No.W190927	3.4	49.0	28.0	1.10	1.19	1.17	2.40	9.3	0.02	1.30	0.09	1.40
Beckley (lower bench) No.W190928	9.3	57.0	32.0	0.50	1.01	0.50	3.60	4.6	0.01	1.50	0.10	1.20
Lower Beckley(?) No.W202789	10.8	46.0	30.0	0.47	0.58	0.25	3.30	15.0	0.02	1.20	0.06	0.76
Pocahontas No. 6 No.W202790	11.4	56.0	28.0	0.40	0.66	0.47	2.10	5.6	0.01	1.80	0.03	0.59

Table 4.--Trace element composition of four coal samples on a whole-coal basis [Values in parts per million. L after a value means less than value shown. Analyses by U.S. Geological Survey, Reston, Va.]

Trace element	Beckley (upper bench) No. w 190928	Beckley (lower bench) No. w 190928	Lower Beckley(?) No. w 202789	Pocahontas No. 6. No. w 202790
Ag	0.05	0.06	0.09	0.06
As	36	4.0	40	3.0
B	4.8	7.4	4.8	7.8
Ba	12	61	68	49
Be	.5	7.6	5.9	1.3
Cd	.03	.06	.29	.19
Ce	8.0	24	24	21
Co	1.7	8.4	26	5.5
Cr	5.4	16	37	15
Cs	.6	2.2	1.5	1.0
Cu	8.2	26	26	24
Er	.3L	1.2	1.2	1.1L
Eu	.18	.55	.38	.30
F	39	64	72	56
Ga	2.0	7.3	9.4	5.2
Gd	.23L	1.4	1.8	1.7L
Ge	.22	4.6	3.9	2.5
Hf	.3	.7	.6	1.1
Hg	.15	.026	.13	.040
La	4.0	12	14	15
Li	5.1	20	25	31
Lu	.1L	.2	.2	.1
Mo	1.6	.65	2.2	2.1
Nb	.37	1.8	2.1	2.3
Nd	1.6	17	14	9.0
Ni	5.4	15	35	15
Pb	1.8	6.7	13	9.8
Sb	.60	.60	1.3	1.6
Sc	1.2	4.5	4.7	3.9
Se	2.3	1.2	3.1	2.6
Sm	.80	2.3	2.0	1.7
Sn	.23L	.63L	.43	.68
Sr	16	27	50	50
Tb	1.2	.93L	.32L	.34L
U	1.5	2.7	2.2	1.3
V	7.1	21	46	19
Y	.8	10	9.8	5.7
Yb	.4	1.2	.9	.8
Zn	3.0	24	16	13
Zr	2.6	13	22	17

MAPS SHOWING COAL RESOURCES OF THE SHADY SPRING QUADRANGLE, RALEIGH AND SUMMERS COUNTIES, WEST VIRGINIA

By
Charles R. Meissner, Jr., and John B. Williams
1980

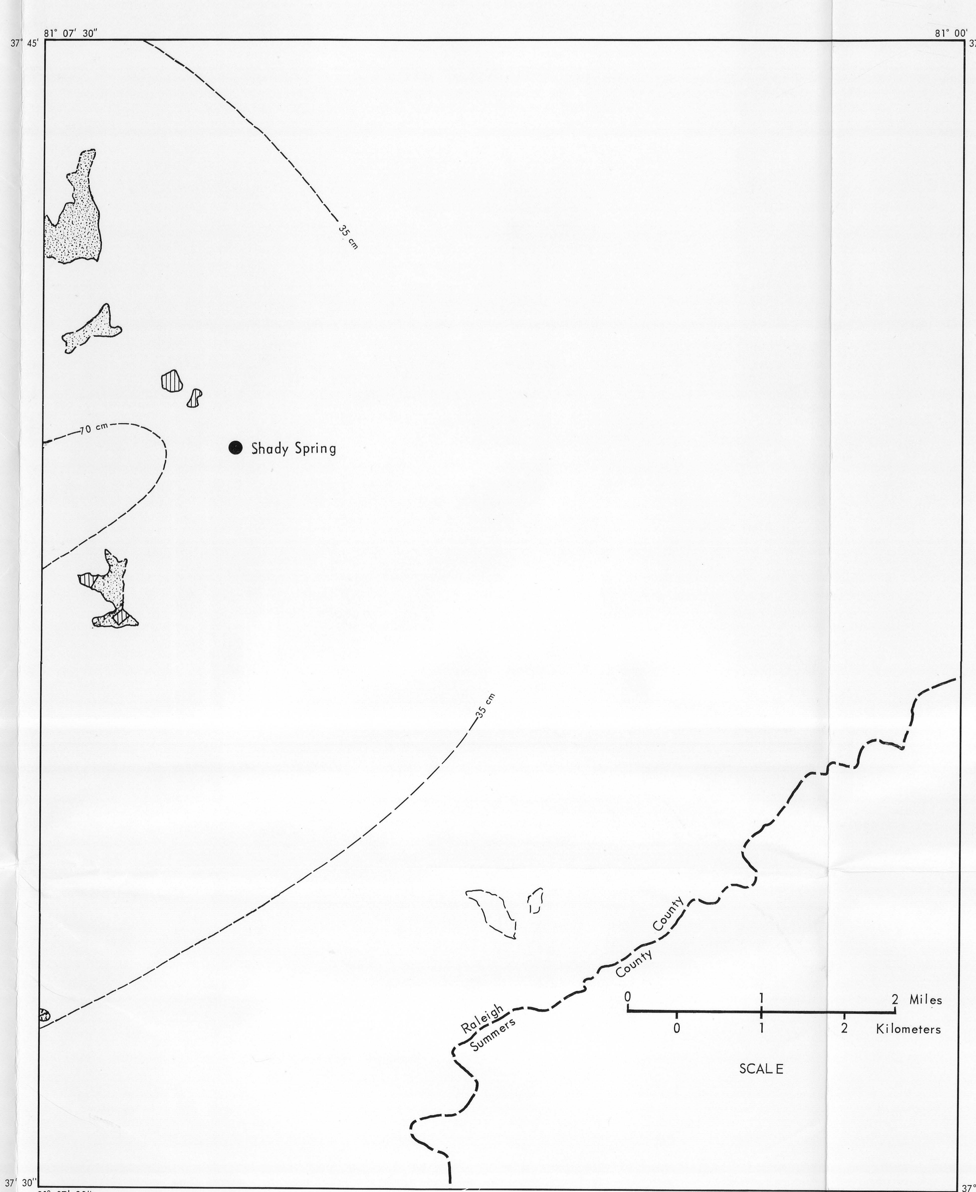


Figure 1.--Distribution of the Little Raleigh coal bed.

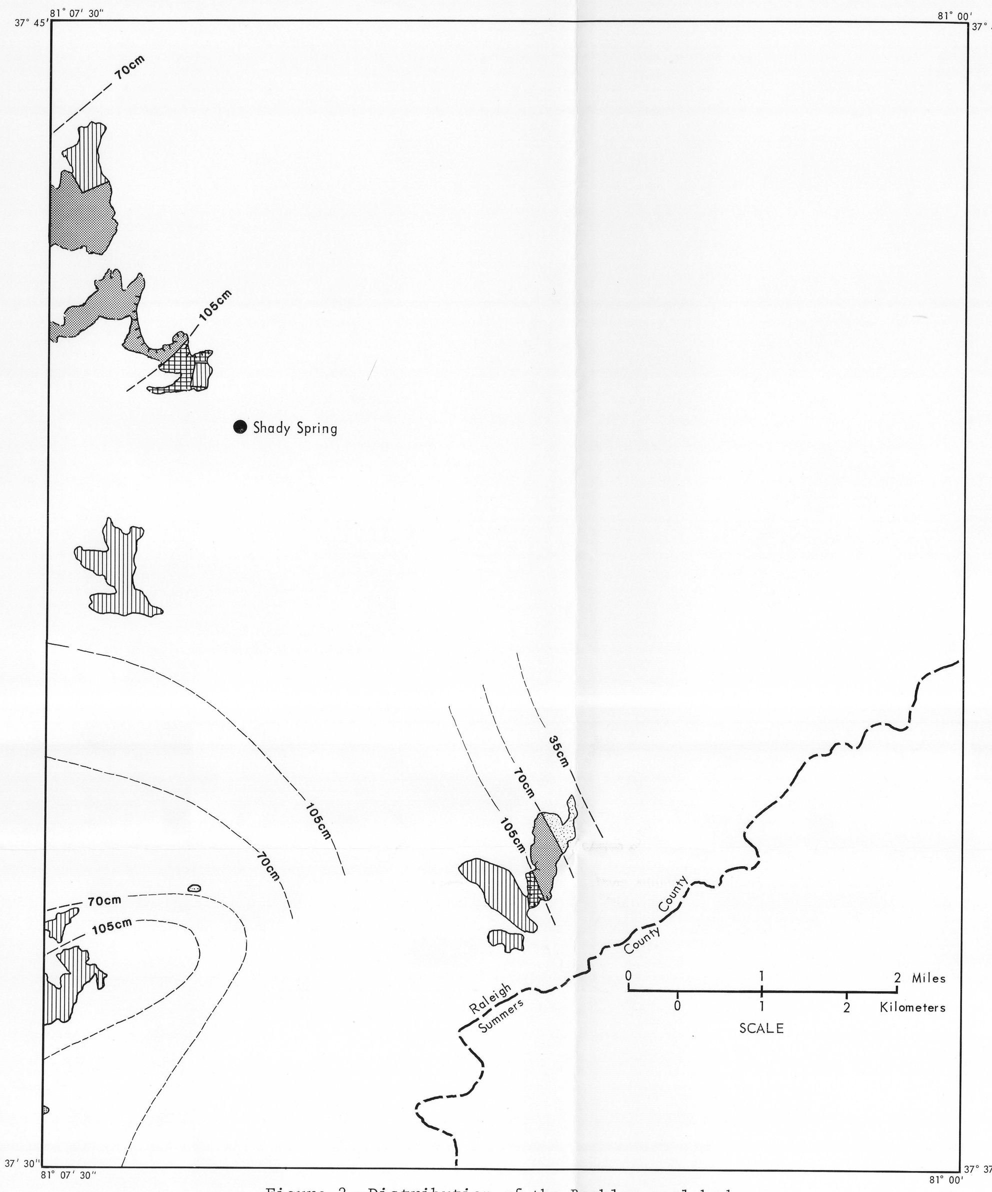


Figure 2.--Distribution of the Beckley coal bed.

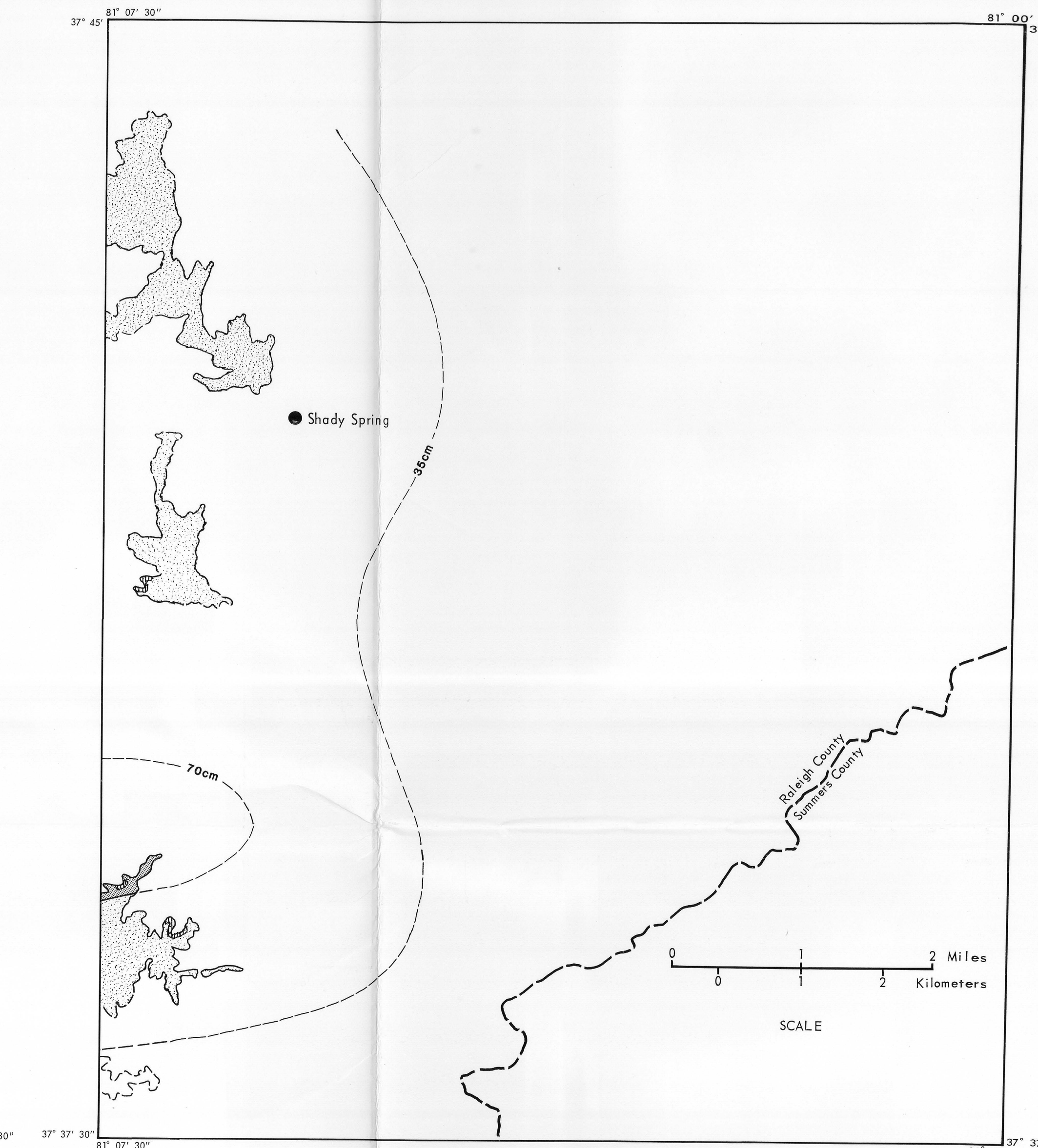


Figure 3.--Distribution of the Lower Beckley(?) coal bed.

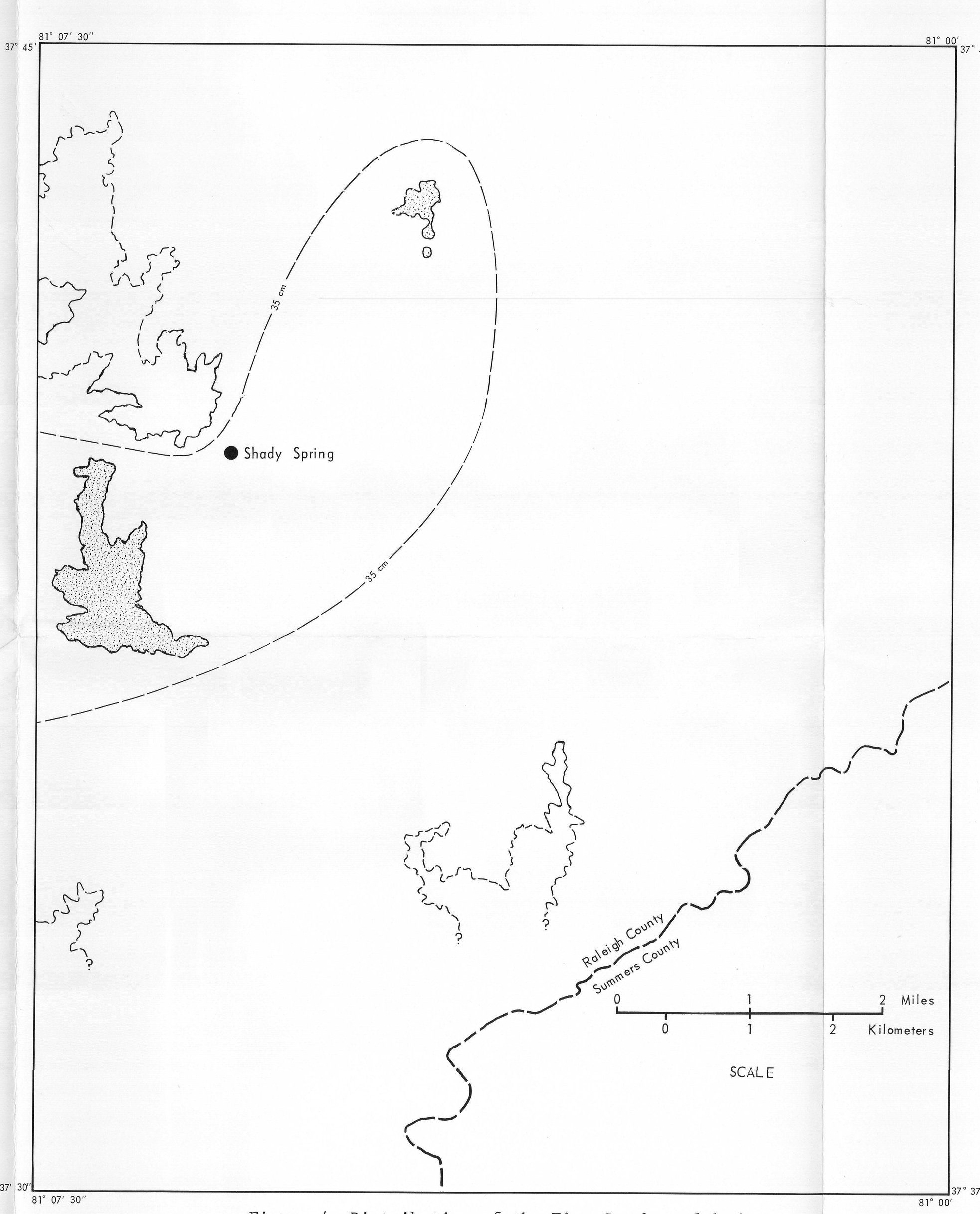


Figure 4.--Distribution of the Fire Creek coal bed.

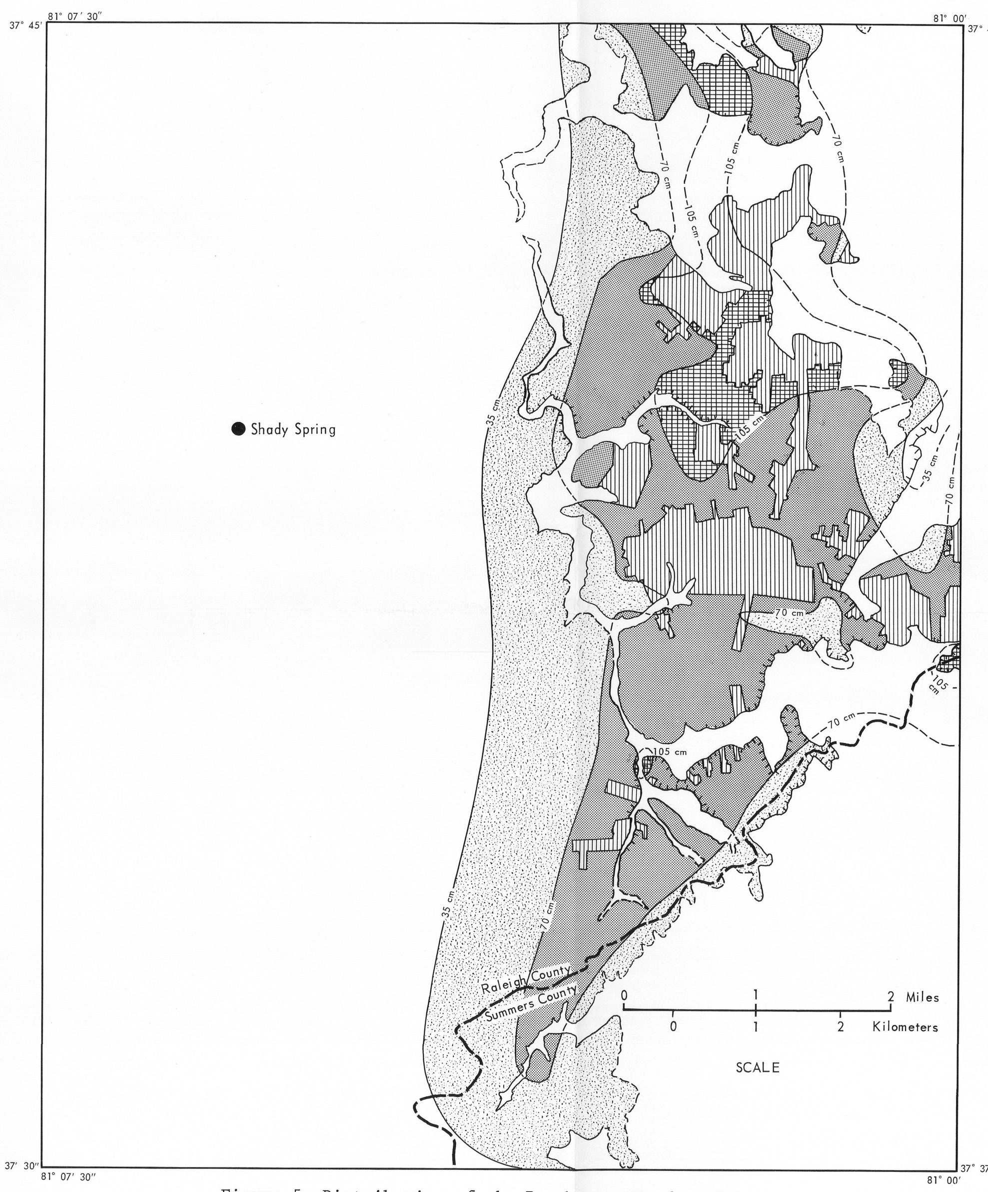


Figure 5.--Distribution of the Pocahontas No. 6 coal bed.

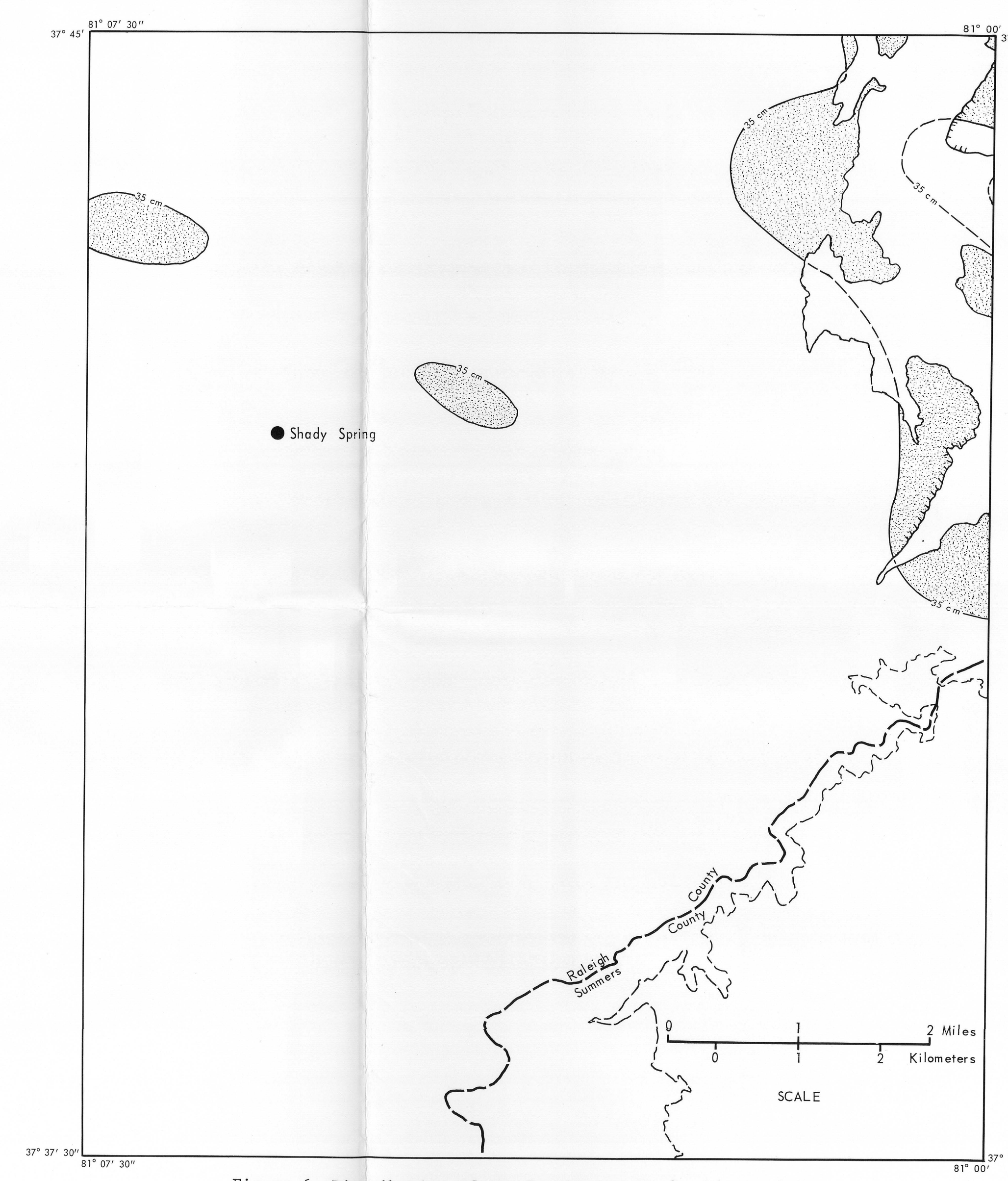


Figure 6.--Distribution of the Pocahontas No. 3 rider coal bed.

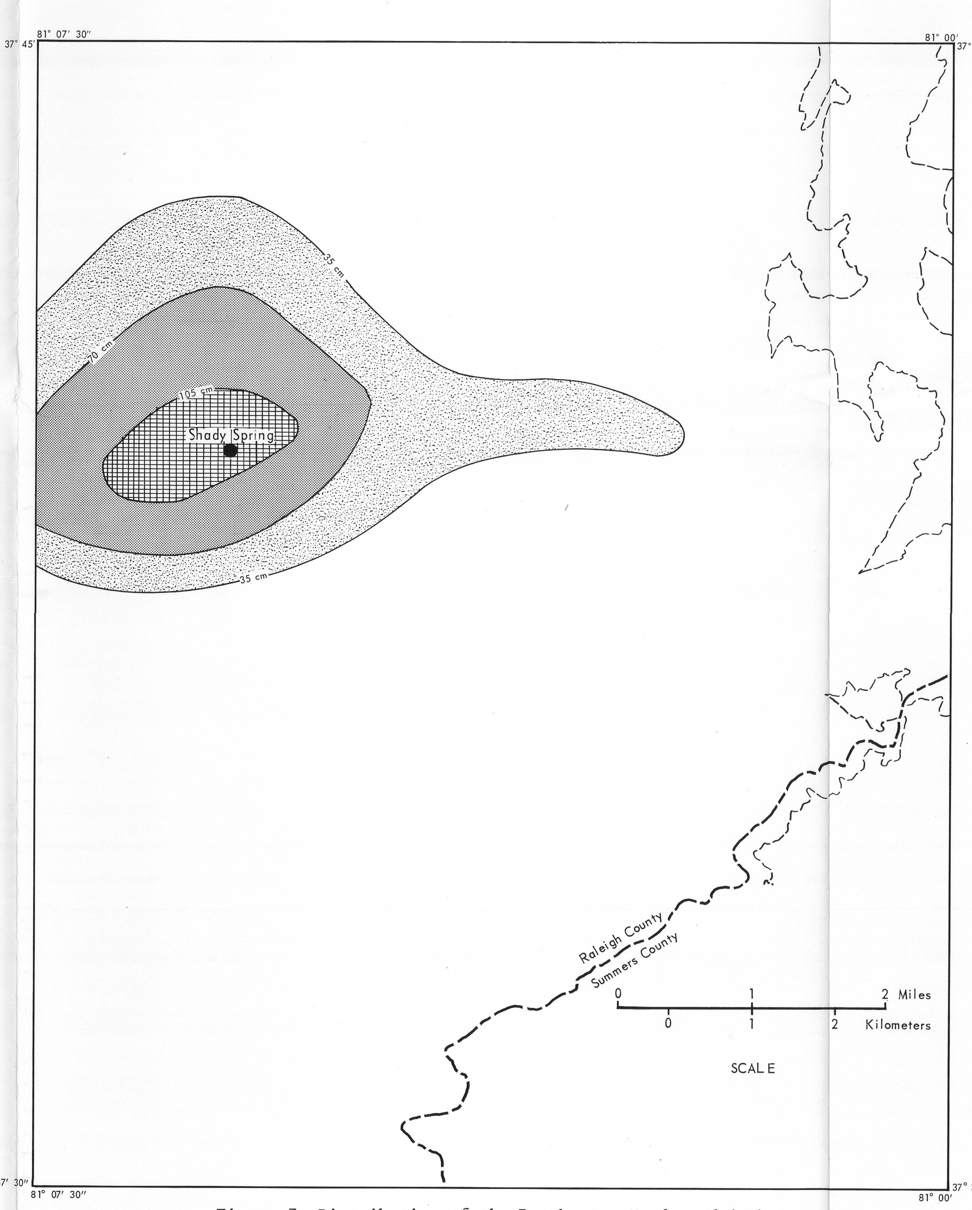


Figure 7.--Distribution of the Pocahontas No. 3 coal bed.

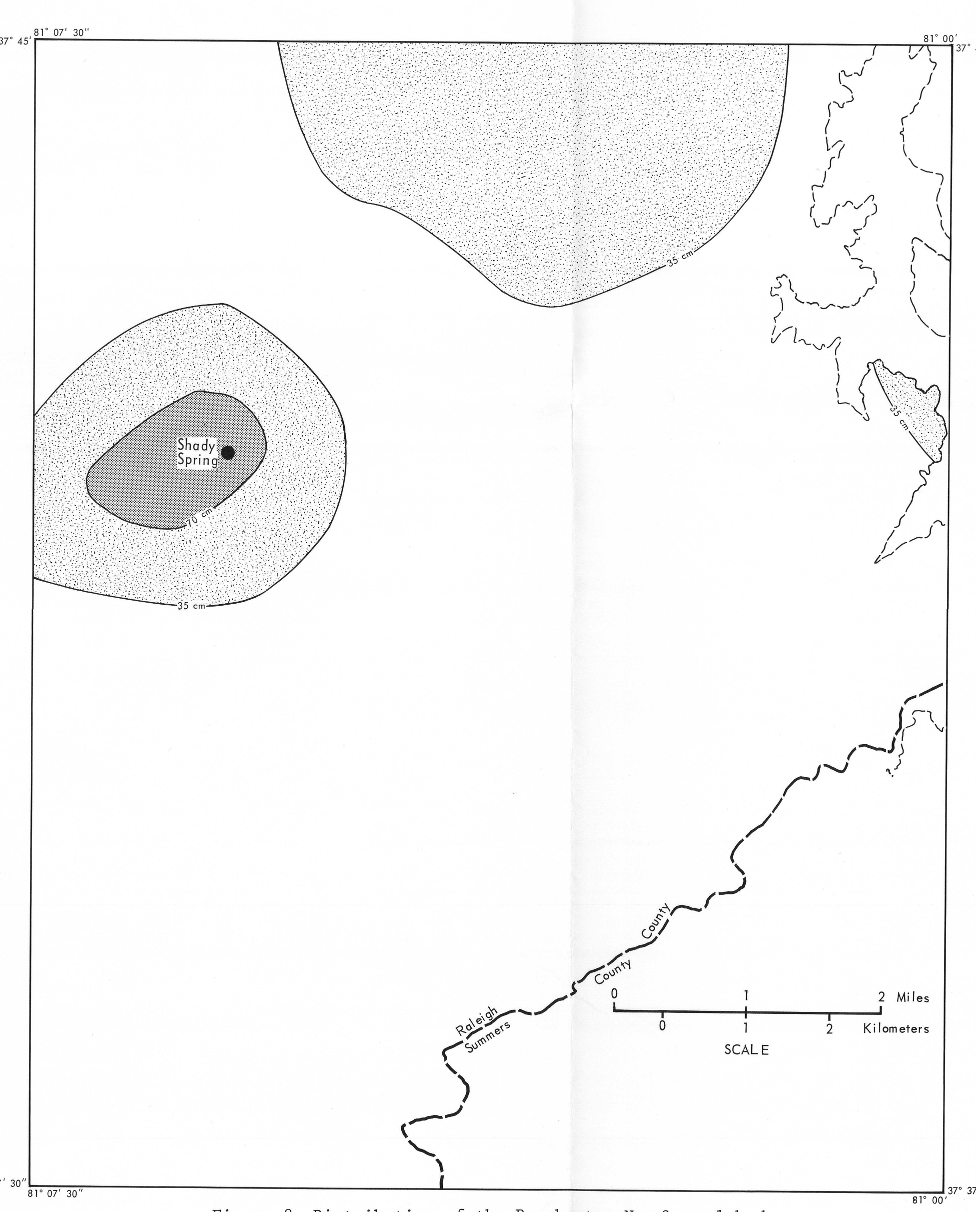


Figure 8.--Distribution of the Pocahontas No. 2 coal bed.

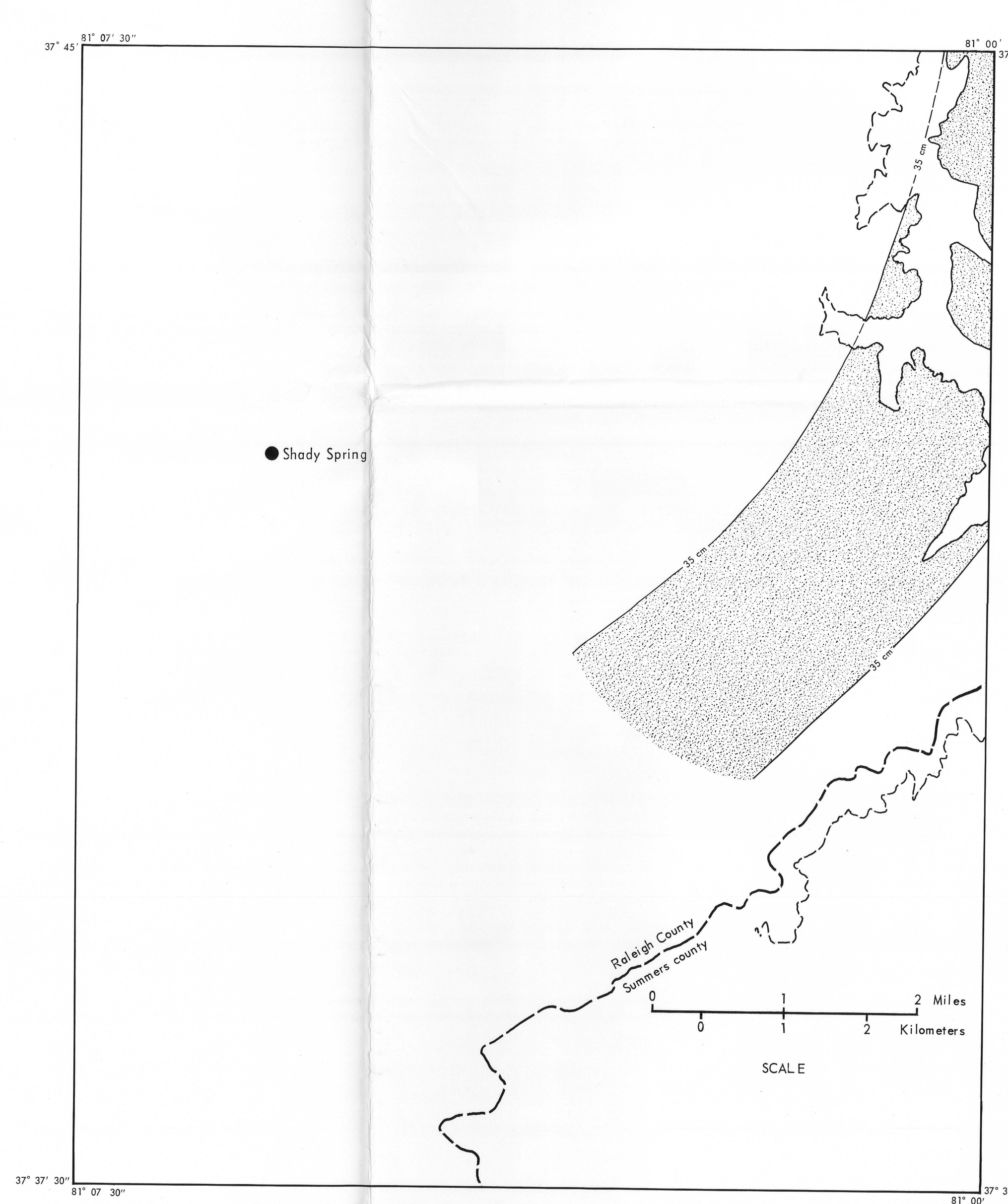


Figure 9.--Distribution of the Pocahontas No. 1 coal bed.

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